

=> e glycerol diacrylate/cn

| | | |
|-----|-------|------------------------------------|
| E1 | 1 | GLYCEROL DIACETATE MONOOLEATE/CN |
| E2 | 1 | GLYCEROL DIACETYLTARTRATE/CN |
| E3 | 1 --> | GLYCEROL DIACRYLATE/CN |
| E4 | 1 | GLYCEROL DIACRYLATE HOMOPOLYMER/CN |
| E5 | 1 | GLYCEROL DIALLYL ETHER/CN |
| E6 | 1 | GLYCEROL DIARACHIDATE/CN |
| E7 | 1 | GLYCEROL DIBENZOATE/CN |
| E8 | 1 | GLYCEROL DIBUTYRATE/CN |
| E9 | 1 | GLYCEROL DICAPRATE/CN |
| E10 | 1 | GLYCEROL DICAPRYLATE/CN |
| E11 | 1 | GLYCEROL DICHLOROHYDRIN/CN |
| E12 | 1 | GLYCEROL DICRESYL ETHER/CN |

=> s e3

L1 1 "GLYCEROL DIACRYLATE"/CN

=> d rn cn

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
RN 52174-50-2 REGISTRY
CN 2-Propenoic acid, diester with 1,2,3-propanetriol (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Glycerin diacrylate
CN **Glycerol diacrylate**

=> e glycerin dimethacrylate/cn

| | | |
|-----|-------|--|
| E1 | 1 | GLYCERIN DIISOSTEARATE/CN |
| E2 | 1 | GLYCERIN DILAURATE ESTER WITH MALEIC ANHYDRIDE/CN |
| E3 | 1 --> | GLYCERIN DIMETHACRYLATE/CN |
| E4 | 1 | GLYCERIN DIMETHACRYLATE HOMOPOLYMER/CN |
| E5 | 1 | GLYCERIN DIMETHACRYLATE-2-HYDROXYETHYL METHACRYLATE-PENTAERYTHRITOL TRIALLYL ETHER-POLYPROPYLENE GLYCOL-STYRENE-TDI COPOLYMER/CN |
| E6 | 1 | GLYCERIN DIMETHACRYLATE-3-HYDROXYPROPYL METHACRYLATE COPOLYMER/CN |
| E7 | 1 | GLYCERIN DIMETHACRYLATE-GLYCERIN MONOMETHACRYLATE-GLYCIDYL METHACRYLATE-STYRENE GRAFT COPOLYMER/CN |
| E8 | 1 | GLYCERIN DIMETHACRYLATE-GLYCIDYL METHACRYLATE COPOLYMER/CN |
| E9 | 1 | GLYCERIN DIMETHACRYLATE-HEXAMETHYLENE DIISOCYANATE COPOLYMER/CN |
| E10 | 1 | GLYCERIN DIMETHACRYLATE-HEXAMETHYLENE DIISOCYANATE-ISOBORNYL ACRYLATE-1,9-NONANEDIOL DIACRYLATE-PENTAERYTHRITOL TETRAACRYLATE COPOLYMER/CN |
| E11 | 1 | GLYCERIN DIMETHACRYLATE-HMDI ADDUCT/CN |
| E12 | 1 | GLYCERIN DIMETHACRYLATE-MILLIONATE MR 100-POLYPROPYLENE GLYCOL PENTAERYTHRITOL ETHER COPOLYMER/CN |

=> s e3

L2 1 "GLYCERIN DIMETHACRYLATE"/CN

=> c rn cn

C IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> d rn cn

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
RN 28497-59-8 REGISTRY
CN 2-Propenoic acid, 2-methyl-, diester with 1,2,3-propanetriol (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Methacrylic acid, diester with glycerol (6CI, 8CI)
OTHER NAMES:

CN Blemmer GMR
CN Blemmer GMR-R
CN Glycerin dimethacrylate

DVB NVP

=> s ((28497-59-8 or 52174-50-2) and 1321-74-0 and 88-12-0)/crn and pms/ci
268 28497-59-8/CRN
57 52174-50-2/CRN
8266 1321-74-0/CRN
7403 88-12-0/CRN
942195 PMS/CI
L3 2 ((28497-59-8 OR 52174-50-2) AND 1321-74-0 AND 88-12-0)/CRN AND
PMS/CI

=> d iall

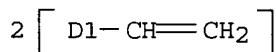
L3 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 378230-78-5 REGISTRY
CN 2-Propenoic acid, 2-methyl-, diester with 1,2,3-propanetriol, polymer with
(chloromethyl)oxirane, diethenylbenzene and 1-ethenyl-2-pyrrolidinone
(9CI) (CA INDEX NAME)
MF (C11 H16 O5 . C10 H10 . C6 H9 N O . C3 H5 Cl O)x
CI PMS
PCT Polyacrylic, Polyester, Polyether, Polyether formed, Polyother,
Polystyrene, Polyvinyl
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| C4N | NC4 | 5 | C4N | 16.136.1 | 1 in CM 3 |
| C2O | OC2 | 3 | C2O | 1.30.1 | 1 in CM 2 |
| C6 | C6 | 6 | C6 | 46.150.18 | 1 in CM 1 |

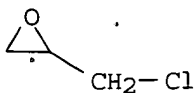
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS



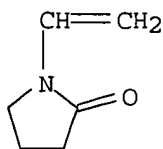
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CRN 106-89-8
CMF C3 H5 Cl O



CM 3

CRN 88-12-0
CMF C6 H9 N O

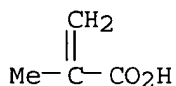


CM 4

CRN 28497-59-8
CMF C11 H16 O5
CCI IDS

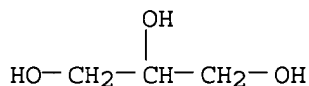
CM 5

CRN 79-41-4
CMF C4 H6 O2



CM 6

CRN 56-81-5
CMF C3 H8 O3



- 1 REFERENCES IN FILE CA (1962 TO DATE)
- 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1

| | |
|-----------------------|---|
| ACCESSION NUMBER: | 136:21467 CA |
| TITLE: | Hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extraction |
| INVENTOR(S): | Takahashi, Ryuji; Suzuki, Hiroshi |
| PATENT ASSIGNEE(S): | Showa Denko K. K., Japan |
| SOURCE: | Eur. Pat. Appl., 9 pp. |
| | CODEN: EPXXDW |
| DOCUMENT TYPE: | Patent |
| LANGUAGE: | English |
| INT. PATENT CLASSIF.: | |
| MAIN: | B01D015-00 |
| SECONDARY: | B01J020-26; B01J039-20; B01J041-14 |
| CLASSIFICATION: | 48-1 (Unit Operations and Processes) |

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| EP 1159995 | A2 | 20011205 | EP 2001-112473 | 20010522 |
| EP 1159995 | A3 | 20020116 | | |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

| | | | | |
|---------------|----|----------|----------------|----------|
| JP 2001343378 | A2 | 20011214 | JP 2000-165473 | 20000602 |
|---------------|----|----------|----------------|----------|

| | | | | |
|---------------|----|----------|----------------|----------|
| US 2002004561 | A1 | 20020110 | US 2001-871723 | 20010604 |
|---------------|----|----------|----------------|----------|

PRIORITY APPLN. INFO.:

JP 2000-165473 20000602

US 2001-279108P 20010328

ABSTRACT:

Packing materials for solid-phase extn. consist of a synthetic polymer contg. a hydrophobic site, an ion-exchange group, and, optionally, a hydrophilic site, which are prepd. by copolyng. a hydrophobic monomer (esp. an arom. divinyl compd.) with a hydrophilic monomer (esp. an N-vinylcarboxylic acid amide, such as N-vinylpyrrolidone). An ion-exchange group is then introduced into the polymer without impairing the hydrophobic site(s). The packing materials can be used as a column, a cartridge, or a reservoir; for concg. a component or for removing impurities; can be used in a column switching method for solid-phase extn.; and for anal. of environment-related, medical, or biol. samples (i.e., for identifying or quantifying a drug sample in serum).

SUPPL. TERM:

ion exchange packing material solid phase extn; hydrophilic hydrophobic packing material solid phase extn; drug serum analysis ion exchange packing material

INDEX TERM:

Functional groups

(ammonio group, ion-exchangers contg.; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

Blood analysis

(for drugs; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

Packing materials (beds)

(hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

Epoxy group

(ion-exchangers contg.; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

Anion exchangers

Cation exchangers

Ion exchangers

(polymeric; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

Extraction

(solid-phase, polymeric packing materials for; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

Functional groups

(sulfo group, ion-exchangers contg.; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

7757-83-7DP, Sodium sulfite, reaction products with N-vinylpyrrolidone-divinylbenzene-epichlorohydrin-glycerin dimethacrylate copolymer

ROLE: RCT (Reactant); SPN (Synthetic preparation); TEM

(Technical or engineered material use); PREP (Preparation);

RACT (Reactant or reagent); USES (Uses)

(anion-exchange packing materials; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM:

121-44-8DP, Triethylamine, reaction products with N-vinylpyrrolidone-divinylbenzene-epichlorohydrin-glycerin dimethacrylate copolymer

ROLE: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (cation-exchange packing materials; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: 9002-89-5, Polyvinyl alcohol

ROLE: NUU (Other use, unclassified); USES (Uses) (dispersion stabilizer; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: 51-06-9, Procaineamide 58-08-2, Caffeine, analysis 525-66-6, Propranolol

ROLE: ANT (Analyte); ANST (Analytical study) (identification and detn. of; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: 378230-77-4P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate, synthesis and reaction of; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: 378230-78-5DP, reaction products with triethylamine or sodium sulfite

ROLE: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (packing materials; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

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L3 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS

RN 378230-77-4 REGISTRY

CN 2-Propenoic acid, 2-methyl-, diester with 1,2,3-propanetriol, polymer with diethenylbenzene and 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

MF (C11 H16 O5 . C10 H10 . C6 H9 N O)x

CI PMS

PCT Polyacrylic, Polyester, Polyether, Polystyrene, Polyvinyl

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Ring System Data

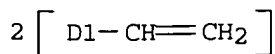
| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|--------------------------|--------------------------|-------------------------|---------------------------|------------------------|----------------------|
| C4N | NC4 | 5 | C4N | 16.136.1 | 1 in CM 2 |
| C6 | C6 | 6 | C6 | 46.150.18 | 1 in CM 1 |

CM 1

CRN 1321-74-0

CMF C10 H10

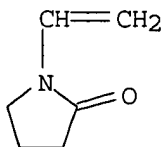
CCI IDS



CM 2

CRN 88-12-0

CMF C6 H9 N O



CM 3

CRN 28497-59-8

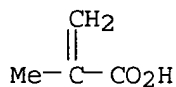
CMF C11 H16 O5

CCI IDS

CM 4

CRN 79-41-4

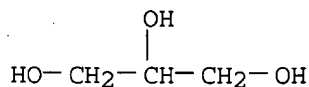
CMF C4 H6 O2



CM 5

CRN 56-81-5

CMF C3 H8 O3



1 REFERENCES IN FILE CA (1962 TO DATE)

1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1

ACCESSION NUMBER: 136:21467 CA
 TITLE: Hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extraction
 INVENTOR(S): Takahashi, Ryuji; Suzuki, Hiroshi
 PATENT ASSIGNEE(S): Showa Denko K. K., Japan
 SOURCE: Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English

INT. PATENT CLASSIF.:

MAIN: B01D015-00

SECONDARY: B01J020-26; B01J039-20; B01J041-14

CLASSIFICATION: 48-1 (Unit Operations and Processes)
Section cross-reference(s): 9, 38, 64

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| EP 1159995 | A2 | 20011205 | EP 2001-112473 | 20010522 |
| EP 1159995 | A3 | 20020116 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| JP 2001343378 | A2 | 20011214 | JP 2000-165473 | 20000602 |
| US 2002004561 | A1 | 20020110 | US 2001-871723 | 20010604 |
| PRIORITY APPLN. INFO.: | | | JP 2000-165473 | 20000602 |
| | | | US 2001-279108P | 20010328 |

ABSTRACT:

Packing materials for solid-phase extn. consist of a synthetic polymer contg. a hydrophobic site, an ion-exchange group, and, optionally, a hydrophilic site, which are prepd. by copolyng. a hydrophobic monomer (esp. an arom. divinyl compd.) with a hydrophilic monomer (esp. an N-vinylcarboxylic acid amide, such as N-vinylpyrrolidone). An ion-exchange group is then introduced into the polymer without impairing the hydrophobic site(s). The packing materials can be used as a column, a cartridge, or a reservoir; for concg. a component or for removing impurities; can be used in a column switching method for solid-phase extn.; and for anal. of environment-related, medical, or biol. samples (i.e., for identifying or quantifying a drug sample in serum).

SUPPL. TERM: ion exchange packing material solid phase extn; hydrophilic hydrophobic packing material solid phase extn; drug serum analysis ion exchange packing material

INDEX TERM: Functional groups
(ammonio group, ion-exchangers contg.;
hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: Blood analysis
(for drugs; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: Packing materials (beds)
(hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: Epoxy group
(ion-exchangers contg.; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: Anion exchangers
Cation exchangers
Ion exchangers
(polymeric; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: Extraction
(solid-phase, polymeric packing materials for; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: Functional groups
(sulfo group, ion-exchangers contg.; hydrophilic-hydrophobic ion-exchange polymeric packing materials for solid-phase extn.)

INDEX TERM: 7757-83-7DP, Sodium sulfite, reaction products with N-vinylpyrrolidone-divinylbenzene-epichlorohydrin-glycerin dimethacrylate copolymer

ROLE: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(anion-exchange packing materials; hydrophilic-hydrophobic ion-exchange polymeric packing materials for

solid-ph extn.)

INDEX TERM: 121-44-8DP, triethylamine, reaction products with
N-vinylpyrrolidone-divinylbenzene-epichlorohydrin-glycerin
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ROLE: RCT (Reactant); SPN (Synthetic preparation); TEM
(Technical or engineered material use); PREP (Preparation);
RACT (Reactant or reagent); USES (Uses)
(cation-exchange packing materials; hydrophilic-
hydrophobic ion-exchange polymeric packing materials for
solid-phase extn.)

INDEX TERM: 9002-89-5, Polyvinyl alcohol
ROLE: NUU (Other use, unclassified); USES (Uses)
(dispersion stabilizer; hydrophilic-hydrophobic
ion-exchange polymeric packing materials for solid-phase
extn.)

INDEX TERM: 51-06-9, Procaineamide 58-08-2, Caffeine, analysis
525-66-6, Propranolol
ROLE: ANT (Analyte); ANST (Analytical study)
(identification and detn. of; hydrophilic-hydrophobic
ion-exchange polymeric packing materials for solid-phase
extn.)

INDEX TERM: 378230-77-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(intermediate, synthesis and reaction of;
hydrophilic-hydrophobic ion-exchange polymeric packing
materials for solid-phase extn.)

INDEX TERM: 378230-78-5DP, reaction products with triethylamine or
sodium sulfite
ROLE: RCT (Reactant); SPN (Synthetic preparation); TEM
(Technical or engineered material use); PREP (Preparation);
RACT (Reactant or reagent); USES (Uses)
(packing materials; hydrophilic-hydrophobic ion-exchange
polymeric packing materials for solid-phase extn.)

=> logoff hold

| | | |
|--|------------|---------|
| COST IN U.S. DOLLARS | SINCE FILE | TOTAL |
| | ENTRY | SESSION |
| FULL ESTIMATED COST | 26.94 | 27.15 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL |
| | ENTRY | SESSION |
| CA SUBSCRIBER PRICE | -1.18 | -1.18 |

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 12:02:46 ON 08 NOV 2002